3D Earth HD 64K for Unity 5 (Version 0.1)

First Important notes please read them carefully

- With all textures included (over 4GB) and GEO data (7k cities and country vectors) this is a very heavy project
- When you eventually build your projects the 4GB of textures will become 11GB. There are however ways to compress this with work a around but keep this in mind.

To speed up things in the editor here are a few tips

- If you don't need GEO information delete the GeoInformation object.
- If you don't need a high resolution Earth, start with selecting all the textures in use and bring down the Max size to your needs (Default is 8192)
- Make sure you have Show Country Borders unselected on the MainEarth object. (will draw countryborders realtime in editor which costs a lot of CPU)
- Make sure you have Show SovCountry Borders unselected on the MainEarth object. (will draw Sovcountryborders realtime in editor which costs a lot of CPU)

Additional downloads

The most useful textures are currently the earth normal maps which makes a big difference in quality.

The others are derived from 43K textures resized to 64K en reedited which still makes a big difference but also keep in mind that for example the 64K Cloud maps are 2GB in size.

- 64K Earth Normal Maps (http://stagit.mobi/downloads/earth_normal.rar)
- 64K Cloud maps (http://stagit.mobi/downloads/clouds.rar)
- 64K Cloud Normal Maps (http://stagit.mobi/downloads/clouds_normal.rar)
- 64K Earth Night Maps (http://stagit.mobi/downloads/night_textures.rar)

  Extract the contents of the files in the correct directory. For example contents of clouds_normal.rar goes into Stagit3DEarth\Objects\Clouds\Normals

  Dont forget to set all those Texture sizes to 8192 instead of the 4096.

Earth object hierarchy

When you add the Earth prefab or open a demo scene the hierarchy is mostly always the following.

- MainEarth (Main holder)
    - EarthObject (The Earth 3D Object)
        - EarthClouds (The clouds 3D Object)
            - EarthShadows (The clouds shadow 3D Object transparent layer)
        - EarthCenter (Null object in the center of the earth, needed by some geo scripts)
        - EarthGeoHolder (Null object, needed by some geo scripts)
    - GeoInformation (Geo information holder);
        - SovCountries (Contains Main country) For example United Kingdom which includes a reference to its other countries.
        - Countries (Contains all separate countries but for example also Wales which is part of the SovCountry United kingdom see above.)
        - Cities (7000+ cities most important)

Changing the Look & Materials of the Earth, Clouds and Atmosphere

Since the 3D model of the earth and clouds exists of 32 separate materials there is a script attached to those models to edit those 32 materials at once.

- EarthObject has a `StagitMaterialChanger` attached
- EarthClouds has a `StagitMaterialCloudChanger` attached
- CloudShadows has a `StagitMaterialCloudShadowChanger` attached

You can easily change all materials at once when in Scene mode with those 3 scripts. Change the values and check the checkbox Set Material.

The atmosphere itself has only one material and can be edited directly.

Earth Material

- Main Brightness (Sets the main brightness. This is often used to create a more realistic effect since the textures are in true color with high contrast)
- Normal Strength (Sets the strength of the normal map)
- Light Scale (Sets the brightness of the nightlights)
- Reflection Shine (Sets the gloss level)
- Reflection Color (Sets the reflection color)
- Atmos Near Color (Color near the center of the earth)
- Atmos Far Color (Color at the side of the earth)
- Atmos Fall Off (The fall of of the Earth Atmosphere)

Cloud Material

- Main Brightness (Sets the main brightness. This is often used to create a more realistic effect since the textures are in true color with high contrast)
- Normal Strength (Sets the strength of the normal map)

Cloud Shadow Material

- Main Brightness (Sets the darkness of the shadow)

Demo Scenes

- GeoCitiesEarthView
  - A simple Google Earth alike view showing cities . You can drag the earth around with mouse control and zoom in using your mouse scroll. The Camera object itself has the `StagitCamController` which is responsible for the mouse movement and orbit.
    The DemoScene object contains the `StagitDemoScene` script which activates all cities.
    It also shows the basic EarthCity scripts hiding cities that are not in the `StagitMainEarth.Instance.CityCameraVisibility` distance value which you can

set on the MainEarth object. And also the `StagitMainEarth.Instance.CityDistanceCalcTime` which is the interval it calculates the distance of each city.

- SimpleOrbitOverUSA
  - Scene with the camera orbitting the Earth over USA. The camera itself contains the `StagitSimpleOribt` which makes the camera orbit the Earth
- FlyToLondon
  - Scene were the camera moves to London and shows the city label. This is done by the `StagitDemoScene2` script attached to the DemoScene object. This `StagitDemoScene2` grabs the gameobject of the City London and sets/activates a `StagitSmoothFollow` script attached to the main camera.
- ShowCountryExample
  - Scene were `StagitDemoScene3` attached to the DemoScene object searches for the country Wales and start highlighting it. After that it searches for United Kingdom and start highlighting it.

Geo Information

The geo locations of cities/countries and it scripts are currently under development.

However basic functionality has been added to get you started using this geo information.

An `EarthEngineCountryController` is attached to the Gameobject MainEarth → GeoInformation → SovCountries which contains basic functions which you can call from any script.

An `EarthEngineCityController` is attached to the Gameobject MainEarth → GeoInformation → Cities which contains basic functions which you can call from any script.

The demo scenes are giving examples on how to call and use those basic functions.

For questions or support email: hugo@xsmain.com